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[Continued on next page]

(54) Title: A MEMORY MANAGEMENT ALGORITHM FOR TRELLIS DECODERS
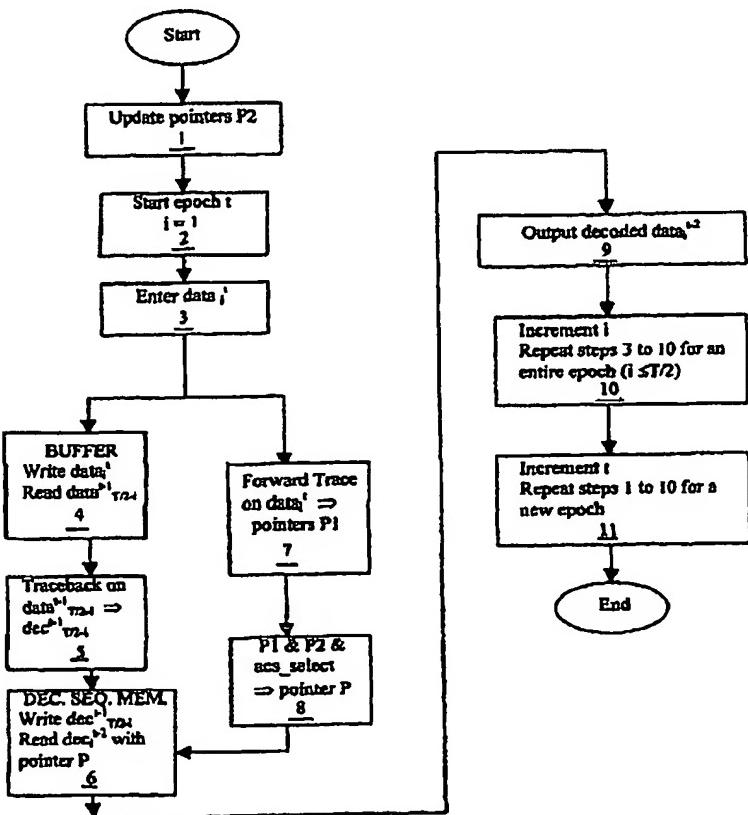
(57) **Abstract:** An improved all-path traceback/forward trace (APTFT) system for use in managing the memory used in processing decoded survivor sequences produced by a trellis decoder network. The memory size is decreased to T • N, where T is a predetermined survivor memory depth and N is the number of states in the trellis. The latency value of the present system is equal to T. Both the memory requirement and latency value represent a 33% decrease in the value of similar parameters produced in a prior art APTFT system. An existing forward trace/path selection unit is modified to take advantage of the inherent nature of the forward trace process (7) in order to simplify the decoding system (9). A generalized version of the APTFT system permits greater flexibility in the choice of memory size and latency values needed to satisfy the requirements of a particular decoding system.

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For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.